

RESEARCH ARTICLE

OPEN ACCESS

Manuscript received November 5, 2022; revised November 20, 2022; accepted November 20, 2022; date of publication December 20, 2022

Digital Object Identifier (DOI): <https://doi.org/10.35882/ijahst.v2i6.197>

Copyright © 2022 by the authors. This work is an open-access article and licensed under a Creative Commons Attribution-ShareAlike 4.0 International License ([CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/))

How to cite: Sri Banun Titi Istiqomah, Dian Puspita Yani, Arifah Retnowuni, "Acupressure as an Adjunctive Treatment to Improve Social Interaction Skills in Autistic Toddlers in Jombang Regency, Indonesia", International Journal of Advanced Health Science and Technology, vol. 2, no. 6, pp. 437–442, December. 2022.

Acupressure as an Adjunctive Treatment to Improve Social Interaction Skills in Autistic Toddlers in Jombang Regency, Indonesia

Sri Banun Titi Istiqomah , Dian Puspita Yani , Arifah Retnowuni 

Department of Midwifery (DIII Study Program), Faculty of Health Sciences, Universitas Pesantren Tinggi Darul 'Ulum Jombang, Indonesia

Corresponding author: Sri Banun Titi Istiqomah (e-mail: sribanuntiti@fik.unipdu.ac.id)

ABSTRACT Acupressure is one of physiotherapy by putting pressure and stimulating acupuncture points (acu points) on the body which aims to stimulate or stimula therapeutic points using the fingers. Baihui point (GV 20) is located on the head, the point of intersection of the median line of the head and the line connecting the apex of the left and right auricles. This point is innervation of the ophthalmic branch n. trigeminal and branch n. occipital. The purpose of this study was to determine the effect of giving acupressure with 2 fingers tap at the Baihui point on autistic toddlers who do therapy at BundaQu Holistic Care & SPA. As well as knowing that the implementation of this therapy can improve the quality of social skills in autistic children. The sampling technique in this study is incidental sampling technique. This study applied a combination of quantitative and qualitative approaches. A quantitative approach is applied to determine whether there is a correlation or influence of the independent variable on the dependent variable. this study applied a Single Case Experimental Design with the A-B-Follow up paradigm. Based on statistical tests, the results obtained p value of 0.00 in autistic toddlers who received treatment. It means that there is an effect of pressurizing two fingers 10 times with an interval of 12 times per day on the Baihui point (GV 20). Furthermore, it can also have an effect on the ability of social interaction in the form of eye contact, mastery of emotional control and a decrease in repetitive behavior in toddlers with autism symptoms. In this case, it is necessary to have the parent's active role, support willingness, motivation and patience in carrying out routine activities. In general, in social life, a child is confronted with values that exist in society, which are called social values. It is hoped that after a significant influence on the abilities and social skills of autistic toddlers, they can gradually improve their social quality.

INDEX TERMS Acupressure, Baihui points toddler, Autism, Adjunctive treatment.

I. INTRODUCTION

The children golden period takes from the womb until an early age of 0-6 years. Therefore, the period of baby in the womb, birth, until the age of 4 (four) years, is the most decisive period [1]. Why? Because, at that time the child's brain is experiencing very rapid growth and development. And, the brain is the main key for the foundation of children's intelligence. This period starts from the fetus in the womb until the age of 6 years. The growth and development of a child's brain reaches 80% of his brain in adulthood. It means that, over this period, brain development is simply 20%. The rest is just an expansion of the surface of the brain and a more complicated network of dendrites [2]. Eentitled *Knowing Children with Special Needs (ABK)* explained that every child born in the world has different potentials. They will have different intelligence and talents from one child to another. Hence, parents or society should not generalize and compare one child with another. On the other hand, parents must understand the shortcomings, confines and privileges of children from an early age, both physically and psychologically [3]. However, the confines on these

children, often cause parents to not understand the potential of their children, almost all parents want their children to be perfect both in terms of physical, psychological and academic [4].

Based on the Regulation of the Minister of State for Women's Empowerment and Child Protection of the Republic of Indonesia Number 10 of 2011 [5], concerning Policies for Handling Children with Special Needs, it is explained that Children with Special Needs are children who experience confines of both physical, mental-intellectual, social, and emotional which have a significant influence in their process. growth and development compared to other children at their age [6].

Children with special needs are children with specific characteristics, different to children in general. Their characteristic is confines of both physically, mentally-intellectually, socially, and emotionally. Based on the regulation of the Minister of Education and Culture of the Republic of Indonesia Number 157 of 2014, concerning Special Education Curriculum, Article 4 children with special needs can be grouped into Blind, Deaf, Speech

Impaired, Mentally Impaired, Mentally Impaired, Learning Difficulties, Slow Learning, Autism, Motoric Disorders, Becomes Victims of Abuse narcotics, illegal drugs, and other addictive substances, Having other disorders [7]. Autism manifests in early childhood and it is characterized by qualitative abnormalities in social interactions, markedly aberrant communication skills, and restricted repetitive behaviors, interests, and activities [8]. Acupressure is a complementary medicine that is widely known in Indonesia. Acupressure massage (acupressure) is a method of massage based on the science of acupuncture (acupuncture) or it can also be called acupuncture without needles. Massage is done at acupuncture points in certain parts of the body to relieve complaints or ailments. Acupressure is also defined as pressing acupoints using fingers gradually which stimulates the body's ability to heal itself naturally[9]. Acupressure is one of physiotherapy by putting pressure and stimulating acupuncture points (acu points) on the body which aims to stimulate or stimula therapeutic points using the fingers[10]. Baihui point (GV 20) is located on the head, the point of intersection of the median line of the head and the line connecting the apex of the left and right auricles [11]. As stated by Cheuk, Wong and Chen in their research entitled Acupuncture for Autism Spectrum Disorder (ASD) that Autism Spectrum Disorder (ASD) is characterized by disturbances in social interaction, disturbances in communication and reduced happiness in thinking and behaving. Acupuncture, which involves applying needles or applying pressure to specific points on the body, is used extensively in Traditional Chinese Medicine and is increasingly being embraced in the western medical paradigm. It is sometimes used as a treatment aimed at improving ASD symptoms and outcomes, but its clinical effectiveness and safety have not been rigorously reviewed [29]. This statement is supported by research by J Clinic Psychiatry which aimed to assess the effectiveness of massage as a treatment option for autism. There is limited evidence for the effectiveness of massage as a symptomatic treatment of autism. Due to the high risk of bias, firm conclusions cannot be drawn. In the future, more rigorous randomized clinical trials appear to be necessary [30]. The same thing was also conveyed by Andrea et al in the study of Complementary and alternative therapy for back pain II, that the benefits of Complementary and Alternative Medicine (CAM) treatment were mostly seen immediately or immediately after treatment ended and then faded over time[31]. Acupressure or massage at acupoints is a complementary therapy and alternative therapy that has no side effects and can be used to reduce the level of acute pain and chronic pain. In their book Complementary/alternative therapy in nursing by Snyder and Lindquist it is stated that closing or pressing on acupressure points is believed to provide benefits in the form of alignment and balancing of one's body's vital energy, so that it is in a healthy condition[32].

Management of acupressure therapy at the baihui point (GV 20) for autistic toddlers can be given, this is reinforced

by the results of research on Massage Therapy for Children With Autism Spectrum Disorders: A Systematic Review by myeong soo lee et al that there is some evidence that group social skills can improve Social needs for some children and youth with ASD. More research is needed to draw stronger conclusions, especially in relation to improving quality of life[33]. Baihui point (GV 20) is on the head, the point of intersection of the median line of the head and the line connecting the apex of the left and right auricles. This point is the point of innervation of the ophthalmic branch of trigeminal and branch n. occipital [12]. Indications of action can affect the tissues around the vertex, cerebral cortex, Depression Syndrome, with electro-acupuncture in Baihui (GV 20) and Yintang (EX HN), Meniere's syndrome, with moxibustion in Baihui, Cephalgia, with needlework in Baihui, Improvement of cerebral vascular circulation, regulation of brain function, Post-stroke Hemiparesis, Neurasthenia, Baihui pinning through Sishencong, or moxibustion, Uterine prolapse [13], Baihui and Qugu pinning (CV 2), Nocturnal enuresis, with moxibustion in Baihui, Hypotension, with moxibustion in Baihui, Hypertension, with bleeding on Baihui[14].

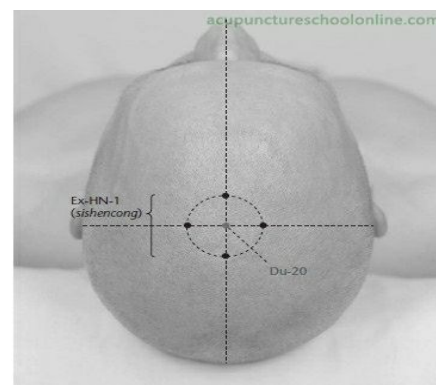


FIGURE 1. The position of Baihui (GV 20) Reference : Acupuncturschoolonline.com [34].

The design in this study was a Single Case Experimental Design [15], which is a study used to evaluate the effect of a treatment (intervention) in a single case. Single case experimental design, serves to determine the effect of treatment by comparing the condition of the subject from time to time (time series) [16]. In this study, a single case experimental was designed with A-B-Follow up paradigm. A is a baseline measurement before therapy, B is a measurement after 14 days of giving acupressure therapy with 2 finger taps at the Baihui point (GV 20) performed 10 times with an interval of 12 times per day, and follow-up is the final measurement. Differences in attitudes of children under five After 28 days of giving acupressure therapy, 2 finger taps at the Baihui point (GV 20) were performed 10 times with an interval of 12 times per day.

This study applied this method to observe the progress of the subject gradually from the time before being given

therapy, after giving therapy within a period of 14 days and after therapy within a period of 28 days [17].

Additionally, this study applied quantitative and qualitative data analysis technique. Quantitative analysis was carried out by performing graphical analysis and equipped with statistical analysis. Graph analysis was performed from the measurement results during the baseline – therapy – follow-up period [18]. And the qualitative data analysis technique used in this research is descriptive analysis. The analysis was carried out by examining all available data, both the results of observations, interviews and follow-ups obtained before and after the intervention [19].

Furthermore, this study was conducted at BundaQu Holistic Care & SPA. Also, this was conducted in March – August 2020.

This study aims to determine whether acupressure as an adjunct Treatment can improve the quality of social interaction skills in autistic toddlers in Jombang Regency, Indonesia. The population and sample in this study were under-five patients with autistic symptoms who underwent acupressure therapy. The sampling technique in this study is incidental sampling technique, the technique of determining the sample is based on chance, that is, anyone who coincidentally / incidentally meets the researcher can be the subject of the study if the person is in accordance with the criteria for the subject of data collection [20]. By using incidental sampling technique, it is hoped that the subject of this study is truly in accordance with the research to be carried out [21].

II. METHODOLOGY

The research method used in this study is a mixed method research, using a combination of quantitative and qualitative approaches. A quantitative approach is carried out to find out whether there is a correlation or influence of the independent variables on the dependent variable. The instrument used was a questionnaire containing statement items regarding the research variables. Data processing by scoring, calculating scores and tabulating the data obtained, analyzing data using descriptive statistical methods to test the research hypothesis and correlation coefficient between research variables. The research strategy used is the concurrent triangulation strategy. Collect quantitative and qualitative data at the same time, then compare the two databases to see if there is convergence, differences or some combination. This study applied a combination of quantitative and qualitative approaches. A quantitative approach is applied to determine whether there is a correlation or influence of the independent variable on the dependent variable [22]. this study applied a Single Case Experimental Design with the A-B-Follow up paradigm. Based on statistical tests, the results obtained p value of 0.00 in autistic toddlers who received treatment. It means that there is an effect of pressurizing two fingers 10 times with an interval of 12 times per day on the Baihui point (GV 20) [23].

IV. DISCUSSION

BundaQu Holistic Care & SPA is a provider of baby massage therapy services with acupressure techniques and also SPA services. Toddlers who come to BundaQu are the general public with babies or toddlers who are healthy and without complaints as well as several babies or toddlers who are sick or with complaints who come on the recommendation of a doctor.

At the first stage in the study, researchers Quantitative research by providing questionnaire instruments about parents' knowledge about autism, supporting therapy methods for people with autism, and attitudes of parents' acceptance of children with autism is accepted.

How much parents know about autism is positively correlated with the attitude of acceptance of parents towards their children. It can be concluded that the higher the parents' knowledge about autism, the higher the attitude of acceptance of parents towards children with autism.

TABLE 1
Correlation Coefficient Value

N	R Value	One tail test 5%
7	0,720	0,412

the value of r arithmetic is 0,720 greater than the r table of 0,412 at a significant level of 0.05, there is a relationship between parents' knowledge about autism applied qualitative research, with observation and interviews for the research data collection. In this case, observation and interview are techniques of data collection for in-depth data analysis. From the results of the analysis, it can be understood that 7 toddlers that under the therapy have autism criteria in the table below [24].

The examination of children with autism must use international standards of autism, which is called ICD-10 International Classification of Disease 1993 and DSM-IV Diagnostic and Statistical Manual 1994 [26]. There are some of criteria for children that classified as autistic: 1. Not able to establish adequate social interactions such as very poor eye contact, 2. less lively facial expressions, less focused gestures, 3. Cannot play with peers, 4. Lack of empathy and unable to feel what other people feel, 5. Less able to hold social relationships and reciprocal emotional, speech development is delayed or not developed at all (Autistic children try to communicate non-verbally), 6. If the child talks, then his speech is not used to communicate, 7. Often uses strange language and performs repetitive movements [25]. The results of interviews with the parents of 7 toddlers show that they had checked their children condition to the pediatrician and were advised to do supporting therapy other than drugs, after being advised by the therapist to do the 2 finger tap action at the *baihui* point they responded that after the acupressure action, tap 2 the finger at the *baihui* point 10 times with an interval of 12 times per day, there are indeed some significant changes in some of the habits of the child, such as eye-to-eye interactions longer than before, and

reduced activity [26]. Repetitive movements and emotional responses of children are more controlled.

TABLE 2

Observation on 7 toddlers by applying ICD-10 International Classification of Disease 1993 and DSM-IV Diagnostic and Statistical Manual 1994, autism international standard

children with autism	A: Baseline Measurements	B: 14 days	Follow Up: 28 days
1	7 toddlers had no eye contact	Several times, 3 from 7 toddlers had eye contact with therapist	Several times, 6 toddlers had eye contact with therapist, while 1 toddler had 5 minutes eye contact
2	7 toddlers ignored their environment	1 toddlers gave respond by looking toward sudden movement	6 toddlers gave respond by looking toward sudden movement, while 1 toddler gave respond to play
3	7 toddlers ignored their environment	7 toddler did not make any changes	7 toddler did not make any changes
4	7 toddlers ignored their environment	7 toddler did not make any changes	7 toddler did not make any changes
5	7 toddlers ignored their environment	7 toddler did not make any changes	7 toddler did not make any changes
6	7 toddlers ignored their environment	7 toddler did not make any changes	7 toddler did not make any changes
7	7 toddlers showed their fear to the therapist, refused to have physical contact with therapist, crying, screaming, Perform repetitive, irregular movements,	7 toddler did not give reaction, such as crying or fear to therapist, 2 toddlers did not perform repetitive movements while crying	7 did not give reaction, such as crying or fear to therapist, 2 toddlers did not perform repetitive movements while crying or did not cry for more

such as shaking head, waving hands and kicking than 10 minutes.

Regarding above explanation, management of autism must be integrated, covering all related disciplines: medical personnel (psychiatrists, pediatricians, neurologists, medical rehabilitation doctors) and non-medical (educators, psychologists, speech/occupational/physical therapists, social workers). Multidisciplinary management can be divided into two, which are called non-medical and medical. Non-medical therapy includes educational therapy, behavioral therapy, speech therapy, occupational/physical therapy, sensory integration, AIT (Auditory Integration Training), and family interventions. While medical therapy is divided allowing to the target of therapy based on symptoms, specifically therapy for destructive, repetitive, inattention, insomnia, or metabolic disorders.

TABLE 3

Result of test on the effect of the Acupressure treatment group tapping two fingers at the baihui point (GV 20)

Acu pressure	Mean	P Value	Decision
Pre	144,3	0,000	Ha accepted
Post	111,2	0,000	Ha accepted

The results obtained by the condition of toddlers before and after acupressure showed a p value of 0.000. Thus $p < 0.05$ so H_a is accepted which means that there is a significant effect on reducing blood pressure. Based on the results of interviews, management carried out by parents also plays an active role in supporting success, because it requires support, willingness, motivation and patience of parents in carrying it out routinely [27]. Even though in the implementation process there were obstacles related to the busyness of the parents, they could be overcome because of the motivation of the therapist.

This method can provide a simple effect or response to some social skills that were previously weak or had not appeared, for example looking at other people or making eye contact, or having a spontaneous reaction such as laughing after being stimulated by a game by the therapist and also not doing repetitive activities such as shaking your head, kick kicking the leg. This therapy stimulates the organs closest to the baihui point, such as the brain, in order to increase work function and sensitivity to respond to something.

The obstacle in doing therapy is demanding cooperation from parents, to be routine, not to delay doing therapy at home. Because some parents have the excuse that they are busy working, and their toddler is being looked after by their grandmother, the therapist needs to remind parents often. The increasing prevalence of Autism Spectrum Disease (ASD) is the reason for the increasing need for evidence-based behavioral therapy to reduce the impact of ASD symptoms. There is currently no curative therapy or psychopharmacology that has been proven to be effective in

treating all of the symptoms of ASD. Various kinds of management done with the aim of reducing the various symptoms of ASD. One of them is psychopharmacological therapy, the results of which have not been proven effective in dealing with ASD symptoms. Likewise, the applied behavior analysis (ABA) approach shows that there have been cognitive, adaptive, and social improvements in children with ASD in the last four decades[28].

ASD treatment should be started as early as possible, that is, at the age of 3.5–5 years. The earlier the intervention is carried out, the better the results will be. This is caused by brain plasticity, so it is hoped that the gap between the abilities of children with ASD and the level of development that children of their age should be able to do is not too great.

Several studies have also shown positive results in high-intensity behavioral therapy, namely for 15–40 weeks, in increasing adaptive behavior, language skills, and reducing ASD symptoms and difficult behaviors.

The main goal of managing autism spectrum disorders is to overcome the most severe symptoms of ASD, namely communication and social disorders, limited interests, ability to play, and imitation. The intervention was carried out in a structured manner and in a clear setting. In line with the objectives of the research, there is a form of physiotherapy by massaging and stimulating acupuncture points (acupoints) on the body, in this case the baihui point (GV 20), which can influence social interaction skills in the form of eye contact, mastery of emotional control and decreased behavior. recurrence in toddlers with autism symptoms.

IV. CONCLUSION

Based on statistical tests, the results obtained p value of 0.00 in autistic toddlers who received treatment. It means that there is an effect of pressurizing two fingers 10 times with an interval of 12 times per day on the Baihui point (GV 20). Furthermore, it can also have an effect on the ability of social interaction in the form of eye contact, mastery of emotional control and a decrease in repetitive behavior in toddlers with autism symptoms. In this case, it is necessary to have the parent's active role, support, willingness, motivation and patience in carrying out routine activities.

It is known that stabbing at acupuncture points can stimulate the pineal gland to release melatonin which functions to regulate the circadian cycle in the body. The neurohormone melatonin has anxiolytic hypnotic and anticonvulsant effects. The 24-hour pattern of melatonin secretion is widely accepted as a measure of circadian activity in humans. Based on the results of the interviews, management carried out by parents also plays an active role in supporting success, because it requires the support, willingness, motivation and patience of parents in carrying out routine activities. The results of this study provide input for parents, therapists and experts who treat autistic patients to further enhance their understanding of calm autism with the latest theory and information so that they can improve their ability to correct

and improve attitudes that may be lacking or lacking in treating autistic patients.

REFERENCES

- [1.] Zuliani, Ninuk, D. P. (2018). The The Effect of Health Coaching on Motivation of Checking Blood Pressure in Hypertension Patients. *The 2nd Joint International Conferences*, 2(2), 630–635. <https://proceeding.tenjic.org/jic2/index.php/jic2/article/view/85>
- [2.] Zakiah, Z., & Suyati, S. (2021). Overview Knowledge and Attitudes of Parents in the Application of Protocol Health in Children During the Covid-19 Pandemic. *Journal for Quality in Public Health*, 5(1), 344–347. <https://doi.org/10.30994/jqph.v5i1.279>
- [3.] Fitriana, W. D., Istiqomah, S. B. T., Putri, D. A., Ersam, T., Purnomo, A. S., Nurlatifah, & Fatmawati, S. (2021). Antibacterial and toxicity activities of Indonesian herbal medicine extracts used for postpartum treatment. *HAYATI Journal of Biosciences*, 28(3), 232–239. <https://doi.org/10.4308/hjb.28.3.232>
- [4.] Fitriana, W. D., Istiqomah, S. B. T., Ersam, T., & Fatmawati, S. (2018). The relationship of secondary metabolites: A study of Indonesian traditional herbal medicine (Jamu) for post partum maternal care use. *AIP Conference Proceedings*, 2049(2018). <https://doi.org/10.1063/1.5082501>
- [5.] Urifah, S. Suwandi, E. (2018). The the Effect of Progressive Muscle Relaxation (PMR) to Decreasing Blood Pressure Among Elder People in Primary Health Care Center of Cukir, Jombang. *The 2nd Joint International Conferences*, 2(2), 160–166. <https://proceeding.tenjic.org/jic2/index.php/jic2/article/view/21>
- [6.] -, N., Urifah, S., & Prihaninuk, D. (2022). Family Compliance in Implementing Health Protocols: Factor Analysis of Knowledge, Values and Beliefs Infecting Covid-19. *International Journal of Nursing and Midwifery Science (IjnmS)*, 6(1), 88–95. <https://doi.org/10.29082/ijnms/2022/vol6/iss1/381>
- [7.] Suyati, muzayyaroh, Sabrina, D. P. (2018). Description of Knowledge and Attitude Adolescent Before and After Health Promotion Intervention about Anemia. *The 2nd Joint International Conferences*, 2(2), 594–598. <https://proceeding.tenjic.org/jic2/index.php/jic2/article/view/75>
- [8.] Kusuma, N. I., & Kartini, F. (2021). Changes in Knowledge and Attitudes in Preventing Anemia in Female Adolescents: A Comparative Study. *Women, Midwives and Midwifery*, 1(2), 46–54. <https://doi.org/10.36749/wmm.1.2.46-54.2021>
- [9.] Mukhoirotin, Urifah, S. (2022). No TitleUsing warm compresses to reduce IL-1 β levels in dysmenorrhea: An evaluation of quasy experimental study. . . *Journal of Holistic Nursing Science*, 9(1). <https://doi.org/https://doi.org/10.31603/nursing.v9i1.6858>
- [10.] SBT Istiqomah, W. F. (2018). No TitleThe Effect of Hot Chocolate Drinks to Decrease Anxiety toward Mother in First Stage of Labor. *The 2nd Joint International Conferences*, 2(2), 503–508. <https://proceeding.tenjic.org/jic2/index.php/jic2/article/view/79>
- [11.] Mawarti, H. Nugraha, J. Purwanto, D.A. Soeroso, J. (2019). NoSystemic lupus erythematosus: PKCA is an inhibition pathway for mTOR by the active ingredient of green tea. Title. . . *Journal of Physics: Conference Series*, 1374(1), 012044. <https://doi.org/10.1088/1742-6596/1374/1/012044>
- [12.] Puspita, Y.D., Wahida, J.N., Prihartini, J.I. (2018). No TitleThe Influence of Massage Counterpressure on Pain Rate Reduction in First Stage Active Phase Labor Process. *The 2nd Joint International Conferences*, 2(2), 214–218. <https://proceeding.tenjic.org/jic2/index.php/jic2/article/view/74>
- [13.] Prihartini, I.J., Azizah N., Puspita, Y. D. (2018). No TitleReproductive Health Services Utilization and Accessibility Associated Factors among Junior and Senior High School Students in Jombang, East Java, Indonesia. *The 2nd Joint International Conferences*, 2(2), 850–859. <https://proceeding.tenjic.org/jic2/index.php/jic2/article/view/76>
- [14.] Rajin, M., Mawarti, H., & Asumta, M. Z. (2017). Toxicity of Aloe vera leaf Extract for Multi Drugs Resistant (MDR) of Tuberculosis. *Journal of Applied Environmental and Biological Sciences*, 7(11), 153–156.
- [15.] Septianingrum, Y., Hatmanti, N. M., Evita Muslima, I. P., Astarini, M. I. A., Africia, F., Ninuk, D. P., & Rahmawati, I. N. (2021). Intention

- of nurses to accept covid-19 vaccination. *Bali Medical Journal*, 10(3 Special Issue), 1273–1278. <https://doi.org/10.15562/bmj.v10i3.2885>
- [16.] Mawarti, H. Rajin, M. Asumta, Z. (2017). No Title The Effects of Aloe Vera on TNF-a Levels, the Percentage of Nk Cells and Th 17 Cells in Rat That Received Isoniazid and Rifampycine. *The Academy of Medical Sciences of Bosnia and Herzegovina.*, 71(5), 308–311. <https://doi.org/10.5455/medarh.2017.71.308-311>
- [17.] Mawarti, H., Rajin, M., Asumta, M. Z., & Rohimah, N. (2016). Using Spiritual Relaxation as a Nursing Intervention to Improve Quality of Life and CD4 Cells in HIV/AIDS Patient. *J. Appl. Environ. Biol. Sci.*, 6(10), 28–33. www.textroad.com
- [18.] Mawarti, H. Nugraha, J. Purwanto, D.A. Soeroso, J. (2020). No Title Identifying and Revealing Active Compound from Green Tea (*Camellia sinensis*) for Curing Systemic Lupus Erythematosus by Acting as CASPASE 1 Inhibitor. *Jinu. M. Thankamma. P. George, NA Balaram, Sujisha. SS 2. Profile of Burn Deaths: A Study Based on Postmortem Examination of Burn Cases at RNT*, 20(3), 323. <https://doi.org/https://doi.org/10.37506/mlu.v20i3.1439>
- [19.] Ninik, A., Muzayyarah, M., & Jannatul, H. (2016). *Post Date Pregnancy in Coleration With Asphyxia Case in Newborn Baby*.
- [20.] Jogoroto Jombang Kurniawati, T., Farida Ulfa, A., & Faishal, ad. (n.d.). *The Relationship Between Nutritional Knowledge And Nutritional Status Of Ederly In. 014*, 25.
- [21.] Handono, K., Hasanah, D., Kalim, H., & Mawarti, H. (2013). The associations among serum levels of vitamin D, TGF-β/IL-6 balance and Treg/Th17 balance in systemic lupus erythematosus patients in Indonesia. *International Journal of Biochemistry and Biotechnology*, 2(9), 490–496. www.internationalscholarsjournals.org
- [22.] Mawarti, H., Khotimah, As'ad, M. Z., & Rajin, M. (2018). Ameliorative effect of Citrus aurantifolia and Cinnamomum burmannii extracts on diabetic complications in a hyperglycemic rat model. *Tropical Journal of Pharmaceutical Research*, 17(5), 823–829. <https://doi.org/10.4314/tjpr.v17i5.11>
- [23.] *The Student Learning Method Case Study At D-Iii Nursing Department Faculty Of Health Sciences Unipdu Jombang.* (2019).
- [24.] Muniroh, S. W. W. K. (2018). Emotional Support of Family and Depression Incidence among Elderly in Ngumpul Village, Jogoroto Subdistrict, Jombang City. *Indian Journal of Public Health Research & Development (IJPHRD)*, 1, 435.
- [25.] Muniroh, S. K. (2018). The The Student Learning Method in Diploma of Nursing, Faculty of Health Sciences, Unipdu, Jombang. *The 2nd Joint International Conference*, 2(2), 464–467.
- [26.] Kurniawati, Ulfa, A. F. . F. A. (2016). *The Relationship Between Nutritional Knowledge And Nutritional Status Of Ederly In Tambar Jogoroto Jombang*.
- [27.] Jannah, R. S. . A. A. The Impact of the COVID-19 Pandemic on Examination of Pregnant Women (Antenatal Care): A Literature Review. *International Journal of Advanced Health Science and Technology (Ijahst.Org)*, 2(2).
- [28.] Hndono, K. H. D. K. H. M. H. (2013). The associations among serum levels of vitamin D, TGF-β/IL-6 balance and Treg/Th17 balance in systemic lupus erythematosus patients in Indonesia. . *International Journal of Biochemistry and Biotechnology.*, 2(9), 490–496.
- [29.] D. K. Cheuk, V. Wong, and W. X. Chen, “Acupuncture for autism spectrum disorders (ASD),” *Cochrane Database Syst. Rev.*, vol. 2011, no. 9, 2011, doi: 10.1002/14651858.CD007849.pub2.
- [30.] S. Simmons, “Complementary and alternative therapies for low-back pain,” *Nursing (Lond.)*, vol. 41, no. 5, pp. 54–55, 2011, doi: 10.1097/01.NURSE.0000396447.81875.ee.
- [31.] M. F. T. Ruth Lindquis, Mariah Snyder, *Complementary & Alternative Therapies in Nursing*.
- [32.] J. G. Andrea D Furlan, Fatemeh Yazdi, Alexander Tsertsvadze, Anita Gross, Maurits Van Tulder, Lina Santaguida, Dan Cherkin, Joel Gagnier, Carlo Ammendolia, Mohammed T Ansari, Thomas Ostermann, Trish Dryden, Steve Doucette, Becky Skidmore, Raymond Daniel, Sophia, “Complementary and alternative therapies for back pain II,” *Natl. Libr. Med.*, vol. 10, no. 11, pp. 1–764, 2010, [Online]. Available: <https://www.ncbi.nlm.nih.gov/books/NBK56295/>
- [33.] Frpce. Myeong Soo Lee, PhD; Jong-In Kim, OMD, PhD; and Edzard Ernst, MD, PhD, FMedSci, FSB, FRCP, “Massage Therapy for Children With Autism Spectrum Disorders: A Systematic Review,” *J. Clin. Psychiatry*, 2010, [Online]. Available: <https://www.psychiatrist.com/jcp/neurodevelopmental/autism-spectrum-disorders/massage-therapy-children-autism-spectrum-disorders/>
- [34.] “The position of Baihui (GV 20).” Acupuncturingschoolonline.com